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ECONOMIC AND SOCIAL COUNCIL

ECONOMIC COMMISSION FOR AFRICA

Working Group on Price Statistics
Addis Ababa, 25 - 29 June 1979

PROBLEMS ENCOUNTERED IN THE COMPILATION AND UTILIZATION OF INDEXES OF PRICES AND QUANTITIES - POSSIBLE SOLUTIONS

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M79-1698

PROBLEMS ENCOUNTERED IN THE COMPILATION AND UTILIZATION OF INDEXES OF PRICES AND QUANTITIES - POSSIBLE SOLUTIONS

In ARE, the CAPMAS compiles group of indexes :

A. Consumer price index.
B. Wholesale price index.
C. Index numbers of foreign trade.
D. The industrial production index.
E. Wages indexes.
F. The agricultural production index.

A. Consumer price index

Base year

The arithmetic mean of months of the fiscal year 1966/1967.

Scope of the index

The index covers urban and rural areas. The urban areas include the capitals of some selected governorates : 3 in Upper Egypt; 3 in Lower Egypt, besides Cairo, Alexandria, Canal zone cities. These capitals are as follows:

1. Cairo, Alexandria and Canal Zone (Port Said, Ismailia, Suez).
2. Zagazig, Tanta, Damanhour (Lower Egypt).
3. Beni Suef, Sohag, Aswan (Upper Egypt).

For each capital an index is issued monthly. As for rural areas, 57 villages are selected from the above six governorates, 3 for Upper Egypt located along the river Nile vally, and 3 for Lower Egypt, one at the eastern part of the Delta, other at the middle, the third at the western part of the Delta; 32 villages from Lower Egypt and 25 villages from Upper Egypt. The rural index is issued bi-monthly.

The above selection of governorates, large cities, villages, is based on the proportional importance and geographical site of each one.

Coverage

The urban index is classified into 7 main sections which are divided in turn into 21 groups, containing 245 commodity and service items, meanwhile the number of commodity and service items in the rural areas total 65.

Weights used

Weights used in the index are derived from the family budget survey 1964/965.

The values of expenditure on commodity and service items were taken as a base for the calculation of these weights.

Method of calculation

The consumer price indexes are calculated for each city and rural region as follows:

1. The price relative for each consumed item is calculated by averaging the price relatives of commodities or services of this item according to the formula $\frac{\Sigma X}{N}$.

   where X is the price relative and N is the number of commodities or services consumed.

2. The indexes of groups, sections and all items are calculated according to the formula

$$I = \frac{\Sigma X W}{\Sigma W}$$

   where X is the price relative of the consumed item or the index of the group or the index of the section. W is the weight of the consumed item or group or section.

3. When compiling the general index (all items) the number of population in each of the selected governorates in the 1966 population census is used as weights.

Problems

1. Weights

It is known that weights used in calculating the consumer price index are derived from the family budget survey results, in Egypt this survey is carried out every ten years. This interval is so long to follow the rapid changes in the consumption trends. This interval will become five years.

To solve this problem

Shortening the intervals between the surveys is preferable if it is possible.

2. Housing index

The rent index is considered as the only problem in the housing index because the rent has been taken as a constant value from the base year until now not taking in consideration new buildings especially because the rent value is fixed between the owner and the tenant.

To solve this problem

It is advisable that a housing sample survey should be performed to follow the variations in the rent value of the housing units every now and then.

3. Substitution

When any changes happen in the quality of an item consumed or this item became out of consumption.

To solve this problem

We substitute another item having similar qualifications, the new item is priced in the base year with reference to the current price of the new item and that of the disappearing item, as follows:

$$\frac{\text{Price of new item}}{\text{Price of disappearing item}} \times \text{base price of the disappearing item}$$

4. Reporting errors

To solve this problem

Data collectors should imply their observations and modify these inaccurate data.

B. Wholesale price index - 1965/1966 = 100

Base year

The arithmetic mean of months of fiscal year 1965/1966 are taken as a base year for the index.

Scope of the index

The wholesale price index does not relate to a certain city or governorate, it represents the country as a whole.

Coverage of the index

The index covers about 440 commodities, these commodities are selected according to their average values in the years 1964/1965 - 1965/1966. The value of each item is the domestic production, plus imports. Three respondents which deal in wholesale trade are selected for each item.

The commodities are specified to reflect changes in prices only. The industrial commodities are specified according to their trade marks. As for the agricultural commodities they are specified in such a way that every commodity is given distinct characteristics.

The prices surveyed are wholesale prices. Where wholesale prices are not available, the producer prices are used.

Classification of the index

The indexes are classified according to the wholesale trade classification mentioned in the Standard Arab Classification of Economic Activities. According to this classification, the index is divided into 17 divisions which are further divided into 41 sub-groups, including 440 commodities.

This classification is complemented by two other classifications, the first according to the end use, the other according to the stage of processing.

Weights

Weights of the index are derived from average values of domestic, agriculture and industrial production, plus the value of imports in the year (64/65 - 65/66).

Formula

The weighted arithmetic average of price relatives is used :

$$\frac{\sum \frac{P_n}{P_o} P_o q_o}{\sum P_o Q_o} \times 100$$

where P_n, P_o are prices in current and base periods

P_o Q_o are the average value of production and imports in the years (64/65 - 65/66).

Problems

The problems facing the wholesale price index are :

1. Seasonality which is clear in case of vegetables and fruits groups. To solve this problem we assign the weights of the disappearing commodities to the weights of the remaining commodities in the same group according to its weight in the years (64/65 - 65/66).

2. Changes in quality : commodities entering the index are selected in a way that they are not subject to changes in a short period. If a commodity disappears, a similar kind and grade is replaced, and a base price is obtained for the new item as follows:

$$\frac{\text{price of new item}}{\text{price of disappearing item}} \times \text{base price of the disappearing item}$$

C. Index numbers of foreign trade - 1965 = 100

Frequency of compilation: annually.

Scope of index : the index indicates changes in exports and imports.

Base year : the year 1965 is taken as a base year for imports and exports indexes.

Indexes issued :

Three indexes are issued for exports and imports :

1. The value index.
2. The price index.
3. The quantum index.

Coverage :

Items entering in the index are selected both from exports and imports according to the value of each item in base year. For exports items with a value of 50.000 EP or more in the base year are selected for coverage, for imports, this value is 25.000 EP or more.

The items selected according to this criterion cover 96.4 per cent of the total value of exports and 90.9 per cent of the total value imports. Assuming that the items not included in the index (less than 50.000 for exports and 25.000 for imports) take the same direction in price changes as follows :

- for exports, the items are classified according to the degree of processing :

  . 1 - Fuel
  . 2 - Cotton
  . 3 - Raw material
  . 4 - Semi-finished products
  . 5 - Finished products.

- for imports, the items are classified according to end use:

  . 1 - Fuel
  . 2 - Raw material
  . 3 - Intermediate goods
  . 4 - Capital goods
  . 5 - Durable consumer goods
  . 6 - Non-durable consumer goods.

Weights used

For price index the quantities of each in the current year is taken as weight for the index. Paache formula is used. The value index is relative of the value in the current year and base year, and that is for each group. The quantum index is a derived index by dividing the value index by the price index. Laspayres formula is used.

Formula used

Three formulae are used, one for index value, one for index of price and one for the index of quantum :

1. Value index $= \frac{\sum P_n \; Q_n}{\sum P_o \; Q_o} \times 100$

2. Price index $= \frac{\sum P_n \; Q_n}{\sum P_o \; Q_n} \times 100$ "Paache"

3. Quantum index $= \frac{\sum P_o \; Q_n}{\sum P_o \; Q_o} \times 100$ "Laspayres"

where P_n, P_o are the prices in the current and base years;

Q_n, Q_o are the quantum in the current and base years.

D. Industrial production index - 1966 = 100

The indexes indicate changes in the value of industrial product.

Base year : 1966 = 100.

Frequency : Annually.

Scope of index: the index covers the following industrial activities:

- Mining and quarrying
- Manufacturing industries
- Gas and electricity.

The index does not relate to a certain city or zone but it represents the country as a whole.

Weights

The net value added for each activity during the period July 1965 - June 1967 is used as weights.

Elementary series

The elementary series of relatives are based on value of gross output in each industry deflated by wholesale price indexes with 1965/1966 as a base.

Method of calculation

The indexes are calculated as fixed weighted arithmetic averages of relatives of deflated gross value of output in each industry.

Formula used

The Laspayres formula, by using the net value added as weights, where

P_n, P_o : deflated values of industrial products in current and base years ;

V_o : net value added in the base year.

E. Wages indexes

Under study and not final.

F. The agricultural production index

Under study and not final.

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COLLECTION ON CONSUMER PRICE DATA IN URBAN AND RURAL AREAS OF KENYA

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COLLECTION ON CONSUMER PRICE DATA IN URBAN AND RURAL AREAS OF KENYA

Introduction

1. This paper gives an account of the methodology collection of prices of consumer goods in Kenya and lays particular emphasis on describing the practical problems encountered and the solution devised to resolve these problems.

Consumer price index+

2. A consumer price index is defined as an index number which measures changes from one period of time to another in average prices paid by a specified group of consumers for a given quantity and quality of goods and services. The index thus measures changes in prices. Looked at another way round, the consumer price index states the percentage rise in income (compared with that in the base year) needed to buy the same "market basket" of goods and services at current prices.

3. In Kenya, the group of consumers is defined as follows :

(a) Lower income group :

This refers to households which in 1974 were earning less than Shs. 700 per month.

(b) Middle income group :

This refers to households which in 1974 were earning between Shs. 700 and Shs. 2,499.

(c) Upper income group :

This refers to households which in 1974 were earning Shs. 2,500 and above.

4. Classification of the above three groups of consumers is based on information obtained from the Nairobi Household Budget Survey conducted in 1974.

Weighting system

5. Details on expenditures collected in the 1974 survey were classified in accordance with the recommendations in the UN System of National Accounts

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+ This part of the discussion deals with the Consumer price indices for Nairobi. For further details, see: "Consumer Price Indices - Nairobi" Central Bureau of Statistics, March, 1977.

and proportions of expenditure incurred on various items calculated by income groups described above. These proportions then formed the basis of the weighting system for the indices.

Selection of commodities

6. Although a consumer price index is designed to reflect price changes for a wide range of goods and services, it is obviously impractical to collect prices for every item and brand sold in Nairobi. It is also unnecessary. Instead of taking all goods and services, only representative goods and services need be selected having first aggregated all the commodities on which expenditures are incurred into groups of close substitutes, or at least groups having similar raw materials, since it is presumed that the prices of close substitutes tend to move together. A few items within a group can then be taken to represent the group. In general the more important the group, the less homogeneous the component items, the larger must be the number of items taken to represent it.

7. In making selection of items two general principles were kept in mind to ensure that :

(i) all types of items for which there are characteristic price trends were represented in the index; and

(ii) items selected would remain unchanged if possible over a period of time.

Selection of outlets

8. The prices of any commodity vary according to the location of the outlet and the type of outlet from which the commodity is purchased, e.g. market stall, retail shop, supermarket, etc. Theoretically, the number of the different types of outlets should be in proportion to the expenditures incurred in them. Further, within the strata defined by type of shop and area, outlets should be randomly selected. Since the information on relative expenditures incurred in different types of outlets in different areas of Nairobi was not obtained in the expenditure survey, it is not possible to follow these principles rigidly. In fact the outlets have been selected on basis of local knowledge of types of outlets within the various localities in Nairobi.

Specification of items

9. For a price index to reflect price change and nothing else, the homogeneous types of goods and services must be priced precisely each time to ensure similarity and constant quality. Specifications for most of items and services included in the indices and maintained in the commodity registers compiled by the Bureau which state in detail the description of the form and physical characteristics of the items covered in the indices. The list of commodities and services included in the indices is detailed in the attached appendix. Only limited specifications are noted in the appendix for brevity.

Price data collection in Nairobi

10. Prices for items in the index for the Lower Incope Group are collected at the beginning of every month and price collection takes about four days to effect. For the indices for Middle and Upper Income Groups, prices are collected from 15th of every month and collection lasts approximately for one week.

11. Prices are collected by personal visits to the various retail outlets by members of the staff who go through the normal system of bargaining. For certain items sample purchases are made and the items so purchased are disposed of at the National Hospital. These items are identified in the appendix.

12. Theoretically, when prices are collected from different sources weights should be assigned to each source according to volume of sales to estimate a weighted average price. In practice, however, this is extremely difficult particularly when dealing with small retailers who maintain no sales records. Hence, in Kenya simple unweighted average of prices as obtained from various outlets are computed.

13. Since the accuracy of consumer price index depends to a large extent upon the accuracy of the prices themselves, the following general principles are followed when collecting prices. It is ensured that :

(i) the prices do represent the group of persons to whom the index relates. In other words, price collectors do make the purchase or obtain quotations as actual purchasers in different income groups would; and

(ii) prices do correspond to the same quantity and quality of each item, to the same or equivalent sellers, to the same condition of sale and even to the same part of the week.

Practical problems of price collection

14. In areas and for items for which actual purchases are not made, prices are collected by quotation. Mere price quotations whether reported by retailers or obtained by price collectors are usually inaccurate since in both cases lack of interest reduces the whole operation to a mere routine of form filing. In such cases false entries are by no means uncommon. This is particularly common with stores dealing with motor-vehicle spare parts, household durables, and furniture and clothing. Normally questionnaires are handed over to the sales attendant in such stores and collected after a day or two.

15. Quotations of items covered by government's price control regulations is another area which needs mention. Ideally the objective is to secure prices paid by consumers and that is what the indices should measure. However, quotations of prices for meat and charcoal both of them being price controlled items have in the past posed some problems. In both cases controlled prices are often undermined. In the case of meat,

it particularly concerns the consumers in the Middle and Upper Income Groups who consume 'grade' meat. Similarly, charcoal prices have for a long time been a sensitive issue too since the vendors have succeeded in undermining the controlled prices. These practical problems have been resolved as follows:

(i) callbacks are made whenever prices quoted are not consistent with the specifications given;

(ii) budget for purchases of meat and meat products is increased to allow actual purchases to be made even for controlled items;

(iii) charcoal prices are collected by interviewing households within the area where price collection is taking place.

Other problems

(a) Fruits and vegetables

16. Problems arise because the prices of fruits and vegetables are subject to seasonal variation; and because at certain times of the year some fruits and vegetables go off the market altogether. As far as the former is concerned the ratio of a twelve month moving average ending with the current month to a similar moving average ending with the corresponding month in the base period is calculated. When, however, a particular vegetable or fruit becomes unobtainable at certain times of the year, the price is either left unaltered until it is again obtainable in the market; or left out of the calculation, its weight being spread over those of the other vegetables, and fruits.

(b) Changes in fashion or quality

17. In some cases, changes in fashion or quality make it almost impossible to price the identical article over a long period of time. Secondly, new products are introduced which frequently bear little resemblance to products selected during base period, and as such, direct price comparisons cannot be made. In such cases prices for the two items concerned are collected for a period of time when there is a change in fashion. During this period a ratio is calculated of the price of the latter item to that of the former. The base period price is then adjusted by being multiplied by this ratio to obtain the equivalent of what would have been the base price of the new item.

Price collection in other main towns and urban areas

18. The Central Bureau of Statistics is extending the coverage of price collection exercise to other towns and urban areas, as well as rural areas too.

19. Quarterly price collection in the three big towns, i.e. Mombasa, Kisumu and Nakuru started in 1976 and the Bureau is now compiling cost of living indices for these towns. Commodity and group weights are derived from the information collected in the Urban Food Purchasing Survey conducted in these towns in 1977. A composite index for only middle and lower incope groups is calculated because the survey covered households earning less than KShs.2,500. These indices are due to be published as soon as they have been formally cleared.

20. As far as other urban areas are concerned prices are collected annually. At the moment they are used for comparative purposes only. Consideration is being given to computing tentative indices based on weights derived from data collected in the Integrated Rural Surveys discussed below.

Price collection in the rural areas

Background

21. Price collection in the rural areas is a comparatively recent development in Kenya that has grown out of the Bureau's NATIONAL INTEGRATED SAMPLE SURVEY PROGRAMME (NISSP). This programme was initiated in 1974 with the launching of the Integrated Rural Survey, a multi-purpose household enquiry in which amongst other parameters data was collected on smallholder agricultural production as well as on household income, expenditure and consumption.+ One of the most important objectives of the programme was to establish a permanent and efficient statistical infrastructure to collect data throughout the rural areas of Kenya. This infrastructure consisted of a well-trained cadre of field enumerators and supervisors permanently stationed in the field and qualified to undertake a variety of different statistical enquiries. The range of subjects covered by the NISSP surveys in the following year included for instance demographic studies, agricultural production, nutrition, literacy, fertility, marketing, etc.

Market information service

22. Although initially the work programme of the enumerators described above was centred almost exclusively on household interviews, their duties were expanded in 1977 to include a once-weekly visit to a specified market for the purpose of collecting regular up-to-date market information. This market information service was initiated as a result of a joint FAO/Kenya Government Marketing Development Project, in which the Central Bureau of Statistics was to play a significant role as one of the main sources of data on marketing operations in rural areas.

23. Initially eighty markets[x] were selected. Within each province a list was made of the most important and strategic markets. A subset of these markets was then chosen for inclusion in the Market Information Service according to how accessable they were to the Bureau's enumerators. One enumerator was then assigned to cover each of the selected markets.

24. The main function of the enumerators is to collect weekly data on prices, volumes, and number of traders dealing in the most important crops in the market. These crops include maize, beans, cabbages, tomatoes, sorghum, millet and potatoes. In collecting price data the enumerator is

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+ The consumption data from this survey was later to provide the baseline weights for the rural 'basket of goods and services' needed to establish the rural cost of living index.

x Minor changes have been made to the original list of markets, in the light of experience gained, but the total number by 1979 was still 80.

instructed to record information on a number of observed sales. His observations are deliberately spaced throughout the entire period of the day as well as across a variety of different sellers. An average price for the day is then later computed on the basis of these observed sales. Initially each enumerator was supplied with a weighing scale with which to check the weight of the produce sold. Later the enumerator was additionally supplied with a specially calibrated 'Standard Debe' a 'Standard Tin' since it was discovered that as grains and pulses were traditionally sold by volume, a volume system of measurement was much more appropriate for the enumerator to be using.

25. Stress is always laid on the fact that these data must be processed and published with a minimum of delay. Therefore considerable attention is devoted to the problem of getting the completed forms from the enumerators to Nairobi within a matter of a few days. A variety of different types of transport are used including supervisors motorbikes, and public taxis depending on the location of the market. Initially a restricted computer print-out of the most up-to-date prices is produced on a weekly basis with a time lag of ten days. This is subsequently re-published as a part of a regular Bureau publication, the Market Information Bulletin, on a monthly basis.

Recent development

26. The Market Information Service was initially established strictly for the dissemination of market news. It is however, currently in the process of being considerably expanded into a much more extensive price collection exercise with a view to the establishment of a rural cost of living index. The first step in this expansion was taken in December 1978, when for a smaller number of selected markets, prices were collected for a much more extensive list of items. This exercise included visits to local shops (dukas), butchers and non-market retail outlets. The initial pilot round proved to be successful. The exercise is now scheduled to be permanently established on a quarterly basis and will be merged together with the already existing Market Information Service. On the basis of this expanded price collection exercise, it is envisaged that by the end of 1979, the basis will have been established to compute a rural cost of living index and compute the rural/urban domestic terms of trade indices.

Conclusion

27. Kenya is fortunate in that it has been able to graft its rural price collection operations onto an already established rural statistical infrastructure. The system is still young and in its developmental stage. It should be stressed however that there are certain specialized price information needs for which the Bureau's system is not appropriate. A case in point is the daily reporting of fruit and vegetable prices in the main assembly markets. This is a somewhat specialized price reporting exercise which lies outside the scope of the Bureau's activities and would be more appropriately undertaken by another agency or department. Also outside

the scope of the Bureau's system is price reporting on livestock sales on the hoof. The Bureau at this time sees itself firmly committed to an integrated system of data collection. Consequently its efforts over the next five year period will be directed towards reinforcing and expanding its price collection system within the National Integrated Sample Survey Programme rather than branching out onto more specialized areas.

Commodity items in the Lower Income Group

Category and items	Category and items
1. Food	
1.1 Cereals and Cereal Products	
1.1.1 Cereals	1.6.2 Vegetables
*Rice - Grade II	*Cabbages
*Wheat flour - white 1 kg	*Sukuma-wiki
*Maize flour	*Tomatoes
*Maize Grain	*Carrots
	*Onions leeks
1.1.2 Wheat Products	1.6.3 Pulses
Bread - white ordinary	*Beans
Biscuits - sweet favourite	*Green grams
1.2 Meat	1.7 Roots and Nuts
*Beef - without Bone	1.7.1 Roots
- with Bone	*English Potatoes
Offal	Sugar
Poultry	*Sugar - Refined
1.3 Fish	1.9 Beverages
*Fresh fish - Tilapia	Tea
Dairy Products & Eggs	Coffee
Milk - Green Tetrapack	
*Eggs - Fresh	
1.5 Oils and Fats	1.10 Miscellaneous Food
Kimbo	*Salt
Salad oil	Curry powder
Ghee - cowboy	Lactogen - Baby milk
Margarine - Blue Band	Tangauzi - Ground Ginger
1.6 Fruits, Vegetables and Pulses	1.11 Purchased Food
1.6.1 Fruits	Ugali na Nyama
*Bananas - Green Bananas	Irio
- Ripe Bananas	Githeri - Maize and Beans
	TOTAL FOOD

*Denotes items where purchases are effected.

Category and items

2. Drinks and Tobacco

2.1 Drinks

Beer - Tusker
Muratina
Buzaa
Fanta - Soda

2.2 Tobacco

Cigarettes - Sportsman
- Ten Cents

Total Drinks and Tobacco

3. Clothing and Footwear

3.1 Clothing

3.1.1 Men's Clothing

Men's suits
*Men's shirts
*Men's trousers
*Men's Underwears
Other Men's Clothing - Ties
Socks
Pull-overs

3.1.2 Women's clothing

*Women's dresses
*Women's dress materials
*Women's underwears
Other women's clothing -
Kanga
Kitenge
*H/Square

3.1.3 Children's Clothing

*Children's school uniform
*Children's dresses
*Children's shirts
Children's shorts
Other children's clothing -
Underwear
*Vests

Category and items

3.2 Footwear

*Men's shoes - leather
* - rubber
*Women's Shoes - leather
*Children's shoes - leather

Total Clothing and Footwear

4. Housing Fuel and Power

4.1 Housing

4.2 Fuel and Power

5. Furniture, furnishing, household equipment & household operations

5.1 Furniture, furnishings and household equipment

5.1.1 Furniture and furnishings

*Bed Linen
*Matt esses
*Table chairs
Beds
*Towels
*Blankets
*Table

5.1.2 Household equipment

Stoves
Brooms - cleaning equipment
China - cup and saucer
*China - glassware - tumbler
Cutlery - knife
*Sufurias
*Plates
*Bowls
*Basins
Buckets
Broom
Pots and Pans

Category and items

5.2 Household Operations and Domestic Services

5.2.1 Household Operation

*Household Soap - blue soap
- Panga soap

Detergent - Omo
Shoe polish - Kiwi
Matches - Steamship

Total Furniture, Furnishing, Household Equipment and Household Operations

6. Health and Personal care

6.1 Medical care & Health

Medicine - Aspro
- Cafenol
- Algon

Hospital Fees - Kenyatta N. Hospital
- Pumwani Maternity Hospital

6.2 Personal care

Toilet soap - Sunlight
- Lifebuoy

Total health and personal care

7. Transport and communications

7.1 Personal Transport

Bicycle - standard
Puncture Repair
*Bicycle Tube
*Bicycle Tyre

7.2 Purchased transport

Country bus fares - Nairobi/Mombasa
- Nairobi/Kisumu
- Nairobi/Nyre

City Bus Fares - Short route
- Long route

Total Transport and Communication

Category and items

8. Recreation, entertainment, education and cultural services

8.1 Education

School Fees - Private
- Sharda H. School)
- City H. School)

School Fees - Government
- Pumwani S. School)
- Nairobi Girls)
- Starehe Boys)

8.2 All others

8.2.1 Equipment

Records - E.A. Records
Records Players - Phillips - G.A. 214
Radio Phillips - RL 238
- Sanyo - 7S 107 WF

8.2.2 Entertainment

Cinema Entrance - Back Entrance
Stadium Entrance

8.2.3 Books and Newspapers

Newspaper - Taifa Leo/Baraza

Total recreation, entertainment education and cultural services

9. Miscellaneous goods and services

9.1 Personal Goods

Razor blades
Ball Pens
Envelops
Writing Pads

Total Miscellaneous Goods and Services

Commodity Items in the Middle Income Group

Category and items			Category and items		
1.	Food		1.6	Fruits, Vegetables and Pulses	
	1.1	Cereal and cereal products	1.6.1	Fruits	
		Cereals			Banana – Uripe Uganda Type
		Rice – grade 1 Pishori			*Banana – Ripe Kampala
		Whear Flour – White Packed			*Oranges
		Wheat Flour – Brown			*Lemons
		Maize Flour – White Packed			*Pineapples
		*Maize Grain	1.6.2	Vegetables	
		Corn Flakes – Post Toasties			*Onion – Pink
	1.1.2	Wheat Products			*Cabbages
		Bread – White Ordinary			*Carrots
		– Brown			*Tomatoes
		Buscuits – Nice			*Kale
		Queen Cakes	1.6.3	Pulses	
		Scones			*Peas
	1.2	Meat			*Beans
		*Beef – Beef with Bones			*Greengram
		– Steak	1.7	Roots and Nuts	
		Chicken – Alive	1.7.1	Roots	
		– Capon			*Potatoes – English
		Offal – Tripe			
	1.3	Fish	1.8	Sugar	
		*Fish – Fresh Tilapia			Sugar – Refined
		*Fish – Dried Tilapia			Jam – Strawberry
	1.4	Dairy Product and Eggs			– Plum
		Fresh Milk – Green Tetrapack			Honey and Glucose – Smith
		Eggs			– Capilano
					Sweets – Tropical
	1.5	Oil and Fats	1.9	Beverages	
		Butter – Salted			Coffee – Instant Kanna
		Tinned Fat – Kimbo			– Brooke Bond
		*Salad Oil – Bottled – Elianto			– Instant Nescafe
		– Tinned			Tea Leaves – Brooke Bond
		Ghee Coloured – Cowboy			Green label
		Margarine – Tinned			Milo
					Bournvita
					Ovaltine

Category and items	
1.10	Miscellaneous Food
	Table Salt - Fine Packed Packet
	Curry Powder - Simba Mbili - Virani
	Ginger
	Baby Milk - Nan - Lactogen
	Baby Food - Cerelac - Farlene
1.11	Purchased Food
	Fish and Chips) Biriani) Karanga)
TOTAL FOOD	
2.	Drinks and Tobacco
2.1	Drinks
	Soda - Fanta - Pepsicola
	Orange Squash - Pep
	Beer - White Cap - City - Tusker Export
	Vat 69
	Smirnoff Vodka
	Johny Walker
	Wines
2.2	Tobacco
	Cigarettes - Sportsman - Embassy - Sweetnut
TOTAL DRINKS AND TOBACCO	
3.	Clothing and Footwear
3.1	Clothing
3.1.1	Men's - Suits - Trevira/ Wool - Long Trousers - Trevira/Wool *Shirts - Polyster/ - Cotton - *Underpants - Nylon - Vests - Sunflag - Pullovers - Acrylic - Socks - Nylon - Ties
3.1.2	Women's Clothing
	*Women's - Dresses - Crimplene * Dress Materials - - Polyster/Cotton - *Underwear - Pants - Brassiers - Petticoats
	Women's Stockings - Nylon Eve
	Other Women's Clothing
	- Kanga - Cardigan - Headsquare - Coats - Crimplene - Trousers - Blouse
3.1.3	Children's Clothing
	Children's School Uniform - Girls - Boys
	*Girls' Dresses
	*Boys' Shirts
	Boys' Long Trousers - Crimplene
	Children's Sweater - Acrylic
	Children's Vests - Cotton
	*Children's Underpants - Midco
3.2	Footwear
	Men's Leather Shoes
	Women's Leather Shoes
	Children's Leather Shoes
	*Sandals - Hawai
4.	Housing, Fuel and Power
4.1	Housing
4.2	Fuel and Power
	Gas
	Paraffin
	Methylated Spirit
	Charcoal

Category and items
4. Housing, Fuel and Power (cont'd)
Water
Electricity
TOTAL HOUSING, FUEL AND POWER
5. Furniture, Furnishings, Household Equipment and Household Operations
5.1 Furniture, Furnishings and Household Equipment
5.1.1 Furniture and Furnishings
Sofa Set - Ngambo
Dinning Set - 5 pieces
Table with formica top
Chair with padded cushion and seat
Coil spring bed with all metal frame legs
Dressing Table
Wardrobe
Blankets
Bedsheets - 60" x 90" plain local
Mattress - Foam
Curtains - Synthetic fibre
Bath Towel - stripped/ solid colours
5.1.2 Household Equipment
Refrigerator
Gas Cooker
Pressure Stove
Electric Cooker
Electric Heater
Electric Fan
Electric Bulb
Sewing Machine
Dinner plates - Earthenware
Cup and saucer
Soup plate
Table fork
Table knife
Kitchen knife
Broom - Finlay
5.2 Household Operations and Domestic Services

Category and items
5.2.1 Household Operations
Servants Wages
Detergent - Omo
- Surf
Shoe polish - Kiwi
Shoe Cream - Kiwi
Suede Shoe Cleaner
Laundry Soap - Panga
- Blue
Matches
Laundry
Dry Cleaning
TOTAL FURNITURE, FURNISHING, HOUSEHOLD EQUIPMENT AND HOUSEHOLD OPERATIONS
6. Health and Personal Care
6.1 Medical Care and Health
Eye examination and prescription of eye glasses - Doctor's fee
Child delivery - Hospital fee
Medicine
Ambulance charges
Dental filling
Tooth Extraction
6.2 Personal Care
Toilet Soap - Perfumed
Skin lotion
Skin cream
Powder - Perfumed
Tooth paste
Toilet Rolls
TOTAL MEDICAL CARE AND HEALTH
7. Transport and Communications
7.1 Personal Transport
New Car
New Motor Cycle
7.2 Operation of Personal Transport
Lubrication)
Engine tune up)

Category and items

Head lamp assembly)
Brake lining or brake pad)
Storage Battery 12 volts)
Tyre)
Tube)
Spark Plug)
Petrol - Regular/Premium
Engine Motor Oil
Gear box oil
Road licence

7.3 Purchased Transport

Car hire - self drive
Bus fare - within Nairobi
- Nairobi to Provincial Headquarters

7.4 Communications

Postage - land, air or sea
Telephone call in Nairobi - Minimum period
Trunk call - Nairobi to Provincial Head Headquarters

TOTAL TRANSPORT AND COMMUNICATIONS

8. Recreation, Entertainment, Education and Cultural Services

8.1 Education

School fees - Private School
- Government School

8.2 All others

8.2.1 Equipment

Radio - 3 band-Electric/Battery
Record Player - Automatic
Records 45 - r.p.m. E.A. Language
- Outside E.A.

Category and items

8.2.2 Entertainment

Theatre/Cinema Entrance Feee - Back Stalls
Stadium Entrance - Non Sheltered Terrace
Radio Licence
T.V. Rental - Monthly

8.2.3 Books and Newspapers

Newspaper - English Daily
Magazine - weekly Review
Books - Bible
- Dictionary

TOTAL RECREATION, ENTERTAINMENT, EDUCATION AND CULTURAL SERVICES

9. Miscellaneous Goods and Services

9.1 Personal Goods

Stationery - Envelopes
- Ball point
- Writing pad
- Wrist watch - Men's

Men's Umbrella
Shaver Manual - Clippers

9.2 Financial Services

Motor Insurance
- Comprehensive
- Third party

TOTAL MISCELLANEOUS GOODS AND SERVICES

Commodity Items in the High Income Group

CATEGORY AND ITEMS	CATEGORY AND ITEMS
1. FOOD	1.3 Fish
1.1. Cereals and Cereal Products	*Fish - Fresh Tilapia
1.1.1 Cereals	Tinned Fish - Witco Tuna Fish)
Rice - Grade 1 Pishori	- Cherry Star)
Wheat Flour - White packed	- Oyster)
Maize flour - White packed	1.4 Dairy Products and Eggs
1.1.2 Wheat Products	Fresh Milk - Green tetrapack
Breakfast Cereals - P & A	Tinned Milk - Ideal
- Country Style Natural Cereal	Cheese - Cheddar
- Bran Flakes	Eggs
Bread - Premium	1.5 Oil and Fats
- Brown	Butter - Salted
Biscuits - Assorted cream	- Unsalted
- Nice	Nimbo - Tinned fat
- Digestive	Salad oil - Mazola corn oil
1.2 Meat	Ghee coloured - Cowboy
Steak - Sirloin)	Margarine - Tinned
- Rump)	1.6 Fruits, Vegetables and pulses
- Fillet)	1.6.1 Fruits
- Stewing)	*Bananas - Ripe Kampala
- Topside)	*Oranges
Lamb - Loin)	*Lemons
- Leg)	*Mangoes
- Shoulder)	*Coconut
- Carcas)	*Pineapples
Pork - Loin, leg, shoulder	*Pawpaw
*Chicken - Capon	*Apples
Beef - Sausage	Other Fresh fruits - Pears
Pork - Sausage	Tinned Fruits - Pineapples
Baccon - Packed	1.6.2. Vegetables
Tinned Meat - 3 Bulls	*Onion - pink
Corned Beef - Pray Bentos	*Cabbages
	*Carrots
	*Celery
	*Cucumber
	*Lettuce
	*Tomatoes
	*Spinach
	*Cauliflower
	*kale

CATEGORY AND ITEMS	CATEGORY AND ITEMS
1.6.3 Pulses	2. DRINKS AND TOBACCO
*Peas	2.1 Drinks
*Beans	Soda - Coca Cola
*Green grams	- Ginger Ale
1.7. Roots and Nuts	Orange Squash - Pep
1.7.1 Roots	- Treetop
*Potatoes - English	Whisky - Teachers
1.8 Sugar - refined	- Haig
Jam - Rasp Berry	Brandy - Beehive
Marmalade - Orange Sevile	Wines
Honey and Glucose - Smith Capilano	Beer - Pilsner
Creamed Honey	- Tusker Export
Sweets - Toffee	2.2 Tobacco
1.9 Beverages	Cigarettes - 555 States
Coffee - Instant Kenna	Express
- Non-Instant B.B.	- Embassy
- Instant Nescafe	Tobacco - Sweet Nut
Tea Leaves - Brooke Bond	TOTAL DRINKS AND TOBACCO
Green Label	
- Gold Label	
Milo	3. CLOTHING AND FOOTWEAR
Bournivita	3.1 Clothing
Ovaltine	3.1.1 Men's Clothing
1.10 Miscellaneous Food	Men's - Suits - Trevira/Wool
Table Salt - Kapa	- Trousers
Curry Powder - Simba Mbili - Virani	- Shirts -
Baking Powder - Royal	Arrow
Yeast	Markll
Garlic	- Underwear -
Baby Milk - Nan	Jockey
- Lactogen	Y-Front
- Glucose	- Pullover
Baby food - Cerelac	- Socks
- Heinz	- Ties
- Farex	3.1.2. Women's Clothing
1.11 Purchased Food	Women's - Dresses
Breakfast	- Dress materials
Lunch	- Underwears
Total Food	Other women's clothing -
	- Kitenge
	- Headsquare
	- Stockings
	- Skirts
	- Cardigans
	- Brassiers
	Women's half-slim petti-coats

CATEGORY AND ITEMS
3.1.3 Children's Clothing
Childrens Uniforms
Girl's Dresses - Polyster/Cotton
Boys' shirts - Polyster/Cotton
Boys' Trousers - Tetron/Cotton
Children's pullover - Nylon
Children's underwear - Cotton
3.2 Footwear
Men's Leather shoes
Women's Leather shoes
Children's Leather shoes
Sandals - Tropical
Sports shoes
TOTAL CLOTHING AND FOOTWEAR
4. HOUSING, FUEL AND POWER
4.1 Housing
Rent
4.2 Fuel and power
Gas
Paraffin
Methylated spirits
Charcoal
Electricity
Water
TOTAL HOUSING, FUEL, AND POWER
5. FURNITURE, FURNISHING, HOUSEHOLD EQUIPMENT AND HOUSEHOLD OPERATIONS
5.1 Furniture, Furnishings and Household Equipment
5.1.1 Furniture and Furnishing
Executive Sofa set
Dinner set - 4 chairs and table
Bed with formica ends wardrobe
Chair - padded
Carpet
Door mat - Coarse fibre
Curtain - Sanforized synthetics fibre
Bath towel 30" x 60" - Cotton plain
Blanket - Cotton/Wool
Mattress 54" x 84" 4-Foam with cover
Bed Sheets 90" x 100" - printed cotton
5.1.2 Household Equipment
Refrigerator
Electric Cooker
Gas Cooker
Electric Heater
Electric Iron - Control dial
Electric light bulb
Sewing machine
Dinner plate - Earthenware
Soup plate - Near bowl
Broom - Finlay
5.2 Household operations and Domestic Services
5.2.1 Household Operations
Detergent - Omo
Shoe polish - Cream
- Liquid suede cleaner
Floor and furniture polish manson
Laundry soap - Jembe
Matches - Steamship
Dry cleaning
5.2.2 Domestic Services
TOTAL FURNITURE, FURNISHINGS, HOUSEHOLD EQUIPMENT AND HOUSEHOLD OPERATIONS

CATEGORY AND ITEMS

6. HEALTH AND PERSONAL CARE

6.1 Medical care and health

Medicine
Examination and prescription of eye glasses - Doctor's fee
Ambulance - One way (to hospital)
Child delivery - Hospital fee
Dental filling
Tooth extraction

6.2 Personal Care

Toilet Soap
Cosmetics
Other toilet goods
Other personal effects

TOTAL HEALTH AND PERSONAL CARE

7. TRANSPORT AND COMMUNICATIONS

7.1 Personal Transport

New car
Motor cycle

7.2 Operations of personal transport

Lubrication)
Engine tune-up)
Head-lamp assembly)
Brake-lining or pad)
Storage battery - 12 volt)
Tyre)
Tube)
Spark plug)
Petrol - Regular/Premium
Engine motor oil
Gearbox oil
Road licence

7.3 Purchased Transport

Car hire-self drive
Bus fare - Nairobi/Provincial Headquarters
Taxi fares per kilometer

CATEGORY AND ITEMS

7.4 Communications

Postage - land, air, sea
Telephone - Standing charges - Monthly
Telephone calls in Town - Minimum period
Trunk-calls to provincial headquarters

TOTAL TRANSPORT AND COMMUNICATIONS

8. RECREATION, ENTERTAINMENT, EDUCATION AND CULTURAL SERVICES

8.1 Education

School fees - Private
- Government

8.2 All Others

8.2.1 Equipment

Radio 3 Band - Electric and Battery
Tape recorder 5 keys - Electric and Battery
Record player automatic - Electric and Battery
Record - 45 RPM - E.A. Language
Record - 45 RPM - Outside E.A.

8.2.2. Entertainment

Theatre/Cinema Entrance - Circle
Stadium Entrance - Weather shelter
Radio Licence
T.V. Rental - Monthly

8.2.3 Books and Newspapers

Newspaper - Daily
Magazine - Weekly local
Books - Bible
- Dictionary

TOTAL RECREATION, ENTERTAINMENT, EDUCATION AND CULTURAL SERVICES

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AGRICULTURAL PRODUCER PRICES

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AGRICULTURAL PRODUCER PRICE

I. INTRODUCTION

1. The prices relating to agriculture do not include only those of agricultural products, but also of products necessary for agriculture; the price and rent of land as well as the prices of consumption products bought by farmers. The statistics relating to these prices are not essentially different from those of general price statistics of goods and services.

2. Most of the problems which are present when one defines prices of goods and services or when such statistics are compiled are also found in agricultural prices. One would not then examine but the most important of them in this study. On the other hand the prices paid by farmers, that is the prices of the products necessary to agriculture and for consumption of rural families are not dealt with here. The problems concerning these prices are the same as those dealt with in other documents on producer, wholesale and retail prices.

II. NEED FOR AND USES OF STATISTICS ON AGRICULTURAL PRODUCER PRICES

3. Statistics on agricultural producer prices are generally used for purposes of estimation and comparison. By multiplying producer prices by the gross quantities one obtains the gross value of agricultural production for the year. When these calculations are made over a period of several years the chronological series obtained is very useful for studying long-term agricultural trends, particularly if it has been possible to make calculations for each territorial subdivision as well as for the country as a whole.

4. Annual indices of the volume of agricultural production are prepared by calculating the gross value of the agricultural production for each year at a constant price (generally the average price for all the years in the period chosen as a basis for calculating production).

5. In order to be able to evaluate the economic situation of agriculture, it is necessary to compare the prices of agricultural products and those of certain other articles, specifically those required for agriculture. When the data needed for making this comparison are available for a certain number of years it is possible to prepare indices which reflect charges in the purchasing power or terms of trade of agricultural products in the country concerned.

6. The difference between the unit price at which the producer sells an agricultural product and the price received by the wholesaler gives the margin of profit between producer and merchant. It is impossible to study seriously how a major agricultural commodity is marketed without data for measuring the order of magnitude and variations in the profit margins at the wholesale and retail stages.

III. DEFINITION OF AGRICULTURAL PRODUCER PRICES

7. The transactions in which producers participate as sellers cover all distribution circuits, namely, export, wholesale and retail transactions. The agricultural producer price is defined as the real price of the transaction carried out by the producer at the first point of sale for a clearly specified agricultural commodity.

This price does not always correspond to the farm-gate price which is used to evaluate agricultural production for the purpose of preparing accounts for agriculture. It is therefore important to supplement the prices recorded with information on transport and other costs imposed on the product from the time it leaves the farm to the time it reaches the first point of sale.

IV. PRICE CHARACTERISTICS

The price is an amount of money paid by a buyer or received by a seller for the unit of goods exchanged under given conditions. This definition reveals that the price, which is always expressed as a certain amount of money, does not relate only to the notion of unit of quantity of a certain product which must be delivered by the seller and received by the buyer but also relates to all the terms of the transaction. The concept of price is therefore a multidimensional concept which is influenced by the following main characteristics:

1. Unit of measurement

The unit of measurement (or of quantity) to which the price is related must be clearly defined so as to eliminate as far as possible any ambiguity as to the product content. It must also be able to be used for comparisons in time and in space (for example price per kilogramme, quintal or bale of cotton, price per quintal, 60-kilo sack or ton of coffee and so forth). The unit of measurement is not necessarily the weight, volume or number. In transactions involving agricultural products in Africa, buyers and sellers can use other units. In that case it is necessary to estimate the quantities exchanged and to calculate a unit price.

2. Product specification

The price varies according to the quality of the harvest. Accordingly, the specification of the product for which a price is quoted must be such as to preclude any possibility of confusion. The specifications generally selected relate to the nature and quality of the product (for example, variety and grade of cotton, variety and purity of wheat, grade and degree of humidity of tobacco and so forth). Such specification is an important but difficult task. The criteria used to define the product may not be entirely objective or measureable. This is true when product specification is based on quality or on the grading of quality. For example, the commercial value of cotton is determined by the length of the yarn and by the grade of cotton which, in turn, depends on several factors: colour, look of the fibres, cleanness wear and durability which one is supposed to be able to judge from the look of the cotton. Although some of these qualities can be measured scientifically with high-precision equipment, most of them are judged by appearance and here traders may not all agree. One way of dealing with this delicate problem would be to confine oneself, as far as possible, to objective criteria or to specifications prepared or accepted by marketing agencies, the authorities or international bodies.

3. Conditioning

Conditioning means the manner in which the commodity is prepared for sale. This operation has a tremendous influence on the market value of the commodity.

The quality of the product depends as much on how it has been prepared as on its natural components. For example, cotton is first ginned; the fibre is then cleaned and its degree of humidity is brought within the desired range; it is then pressed into bales which are graded according to certain varieties and grades. Wheat is sold cleaned and may be sold in sacks or in bulk; it may also be subjected to a further stage of processing: it may be ground prior to being delivered to the market or exported. Similar operations apply to corn, rice, tobacco, coffee, cocoa and so forth. The more developed the market the more important these operations become. However, in the case of most agricultural products currently marketed in Africa, conditioning is limited to packaging and a few elementary methods of preserving or colouring.

4. Reference period

The reference period is the time when the transaction was concluded. It may be a specific date or a period of the time during which the price of the commodity remains the same. This period may be different from the time the product is delivered.

5. Place of sale

This makes it possible to estimate the transport costs incurred by the commodity between the farm-gate and the first point of sale. It also makes it possible to compare the price of a commodity at the farm-gate and its price at the first point of sale. In both cases it is also necessary to identify the place of origin of the commodity as this also helps in the specification of the commodity.

6. Conditions of sale

These include the quantities involved in the transaction, place and time of delivery (immediate and future), effect of delivery costs, method of payment (cash or credit) direct or indirect interventions by the authorities (taxes on prices, subsidies and charges). When a price is collected all the conditions of the transaction must be explicitly or implicitly specified for they influence prices and may affect the comparability of series of prices over time.

V. COVERAGE OF THE STATISTICS

When collecting statistics on agricultural producer prices the commodity coverage should be as wide as possible, particularly when the statistics are collected for valuation purposes. When choosing the commodities care should be taken to ensure:

- that the commodity or commodities selected are representative of the group;
- that the commodity is properly identified and that its specifications are the same throughout;
- that each group of commodities is represented by two or more items.

For reference purposes a list of commodities is given below. It is not exhaustive and has been so arranged as to group together similar commodities or commodities whose prices are changing in a similar manner.

AGRICULTURAL PRODUCTS

INDUSTRIAL CROPS:

Annual crops:

Groundnuts, cotton, tobacco, sugar cane, cotton seed, sesame, sunflower-seed, pepper, poppy seed, castor beans, flax, hemp, juté etc.

Perennial crops

Cocoa, coffee, tea, olives, dive oil, coconuts, copra, rubber (hevea) sisal, palm kerenels, palm oil, kapok, tan bark, etc.

FOOD CROPS

Cereals: wheat, rice, maize, sorghum, millet, barley, oats, etc.
Pulses: whole beans, broad beans, peas, lentils, chick peas, etc.
Tubers & roots: potatoes, manioc, yams, cocoyams, sweet potatoes, etc.

VEGETABLES

Leafy: cabbage, artichokes, lettuce, spinach, celery, etc.
Fruits: watermelons, cantaloupes, pumpkins, cucumbers, eggplant, tomatoes, sweet peppers, okra, chillies, etc.
Root, bulb and tuberous: green garlic, green onions, carrots, beets, radishes, turnips, etc.
Leguminous: green beans, peas, etc.
Other : Cauliflower, sweet corn
Fruits: oranges, mandarins, lemons, grapefruit, apples, pears, quince, mangoes, apricots, plums, prunes, dates, figs, almonds, avocados, pineapples, bananas, plantains, grapes, papaya, etc.

LIVESTOCK AND POULTRY

Cattle, calves, buffaloes, sheep, lambs, goats, pigs, mules, asses, camels, rabbits, chickens, turkeys, ducks, beehives, etc.

VI. COLLECTION OF AGRICULTURAL PRODUCER PRICES

A. Sources of information

Various sources may be used for obtaining data on agricultural producer prices, the most important ones being marketing agencies and stabilization funds, markets, traders in agricultural products and farmers. Each of these sources has drawbacks and must be carefully examined before the data is used.

1. Marketing agencies and stabilization funds

The role of marketing agencies is mainly to promote the development of markets at home and abroad, to take initiatives designed to organize and improve production, milling and conditioning. Finally, they deal with the purchase of commodities. Stabilization funds are primarily designed to reduce fluctuations in producer prices by operating reserve funds. They also engage in research and implement measures designed to improve the quality of commodities. These two types of bodies which, in principle, are concerned with the main agricultural commodities, particularly exported commodities, have contracts with the farmers while peasants' associations, buyers and co-operatives market the farm products. The marketing agencies and stabilization funds, to which should be added producers' associations, co-operatives and syndicates, are probably some of the best sources of information on agricultural prices. These bodies usually have records of their marketing operations. It is relatively easy to survey prices from these types of sources and this can be done on an exhaustive basis. However, this source has certain shortcomings. The transactions generally cover one or two main commodities. Thus this source has a very limited coverage. Moreover, there may be too many transactions recorded and this may make processing the data very time-consuming. Furthermore, the price specifications may differ.

2. Markets

Crops may be divided into two major categories according to their intended use: crops intended for local consumption (mainly food crops), which are consumed partly on the spot and partly sold on local markets (food and cattle markets); and industrial or cash crops which are sold on large or well-organized markets. Price statistics may be collected on these markets. In this connection, it should be noted that many African countries use markets to collect agricultural prices. However, this method poses delicate problems, both theoretical and practical; the main ones will be dealt with in the paragraph on methods of collection.

3. Traders in agricultural commodities

Traders buy agricultural commodities directly from the farmers on their own behalf or on behalf of third parties. They can be divided into two categories:

(a) Large establishments which may be import-export concerns, manufacturers, wholesalers, etc. They generally have account-books showing details of their transactions.

(b) Small intermediaries who buy agricultural commodities from the farm or on the relevant market for resale to merchants or consumers.

It is not difficult to collect data from the first category. A list of these traders can be drawn up fairly easily in a good many countries. However, utilizing the second group as a source of information presents major difficulties. It is not easy to draw up and keep up-to-date an exhaustive list of such traders. Moreover, they are hard to reach and are not always able to provide the necessary information.

4. Farmers

Farmers, as sellers, are undoubtedly the most natural source from which to obtain information on agricultural producer prices. However, this source is not without its problems. The collection of price statistics at the farm raises the same difficulties as those encountered in the collection of other current agricultural statistics (areas under crop, production and so on). There are too many farmers and each one conducts but a limited number of transactions. Moreover, in many cases they prefer not to divulge any information.

5. Other sources

There are other less importance sources: government and officials operating on the sales circuits; people who have the opportunity to observe the transactions and to collect up-to-date information concerning these; agents responsible for special surveys.

Circumstances necessarily determine the choice of sources. It is possible to use just one source only if all the transactions involving the product(s) are carried out through that source, for example, when marketing is a monopoly. In practice, in most cases it will be necessary to use several sources, inasmuch as if prices are collected from only one source they may be biased. However in such cases efforts must be made to avoid duplication, particularly when the farmer is one of the sources used.

B. Methods of collecting prices

Methods utilized in collecting producer prices vary according to the source used and the commodity. In the case of certain sources, methods are simple and inexpensive. This is true of commodities whose prices are fixed by the Government and which are covered by marketing agencies or stabilization funds. The method used is that of periodic reports from which raw data are obtained. These reports are mailed assuming, of course, that the bodies concerned agree. Before using this source it is necessary to make a list of all the marketing agencies operating in the country and to collect information on the commodities covered by them (specification of products, volume of transactions and so forth). There may be many such agencies, in which case sampling techniques may be used and the agencies stratified by commodity and volume of transactions.

In the case of commodities the price of which is taxed, the statistician must determine whether a considerable number of transactions take place on the free market or on the black market and try to collect price statistics for them.

The method of collecting data by mailing out questionnaires or forms can also be used when a survey is made of traders of agricultural commodities who keep records or sources such as the public services of agricultural banks. When the survey is conducted by mail it is essential to assure those surveyed that the data provided will be treated in strict confidence and will not be passed on to any service that might use the data against them.

In the case of other sources it will be necessary to obtain the information directly using enumerators who collect the data after questioning the sellers or buyers or observing transactions on the markets. In the case of markets or farmers sampling techniques should be used.

Collection at the markets

For sampling purposes a list of all the markets must be compiled together with the following information:

- location of the market;
- periodicity of the market;
- approximate number and category of buyers and sellers;
- general trends in daily, weekly and seasonal variations;
- approximate quantities of goods arriving on the markets and traded;
- varieties, grades and type of conditioning of commodities traded;

After stratification of the markets according to these characteristics the sample to be investigated will be chosen using normal sampling methods. The data will be collected at time intervals determined according to a sampling scheme over time or selected in a systematic manner.

The collection of price statistics on local markets is an extremely delicate matter due to special marketing practices. First the enumerator must ascertain that the transactions are indeed taking place between farmers selling their goods and buyers of agricultural products and that the price is the final price received by the peasant and not the offer price which may change in the course of the bargaining. When the transaction covers an unknown quantity of the commodity for which a global price has been given - and this is very common on African markets - the enumerator will have to weigh or measure the quantities exchanged in order to calculate the unit price. This method is therefore a combination of direct interview and objective measurement. After ascertaining the exact unit price of the commodity, the enumerator will record all the specifications concerning transaction and commodity on his schedule.

Collection at the farms

Only in exceptional cases can data on agricultural producer prices be obtained periodically and without difficulty by mailing out questionnaires. This is true of large properties, State farms and experimental farms. In most cases information must be obtained by interviewing a limited number of farmers. Sampling techniques will therefore be used. In such cases a number of sample villages may be chosen in each district and all the farmers questioned or sample farmers may be selected from a list of farmers after stratification according to appropriate criteria.

General agricultural surveys can also be used to obtain data on prices. In Africa, current agricultural statistics are prepared by sampling techniques using objective measurements carried out by enumerators who visit selected farms several times a year. It is easy for these enumerators on their various visits to the farms to collect data on the prices received by farmers.

C. Preparation of Data

Agricultural price statistics are generally raw data collected from several farmers and relating to several types, varieties and qualities of the same commodity. A large number of prices are thus surveyed and this requires condensation. In this connection a distinction should be drawn between (a) the average price paid to producers in a given region for the entire harvest or part thereof sold during a given period and (b) the average price paid to the producers in a given region for specific varieties (or qualities) of a commodity sold during the same period. The price as defined in (a) above is an average unit value of the harvest sold; that defined in (b) is an average quotation for very specific varieties of the commodity. The former is of greater interest to agriculture as a whole; the latter is of more interest from the commercial standpoint and also from that of research into how to determine the profits which the farmer may obtain from the different varieties cultivated. Condensation of the raw data is carried out by averaging the price quotations. It is recommended that weighted averages be calculated rather than simple arithmetic averages:

(a) The average of the various specifications of the commodity; the price of each commodity for which there is a clear specification should be weighted by the volume of sales;

(b) The average of the various markets; the price statistics collected on the various markets should be weighted by the volume of sales on each market;

(c) The average of chronological price series: to calculate the annual averages, the monthly (or weekly) prices should be weighted by the corresponding volume of sales; similarly, in the case of monthly averages, the weekly (or daily) price should be weighted by the volume of sales. In the case of commodities which are strongly affected by seasonal factors and the prices of which vary considerably over the year it is better to obtain an average of the prices during the peak marketing period rather than calculating a simple arithmetic average when there are no sales figures with which to weight them. The monthly averages of prices for crops should be related to the harvest year for changes in the supply and demand situation - which, in turn, influence prices - are related to it. However, in some cases - for example in the case of annual index numbers - it may be necessary to use the calendar year.

VII. INDEX NUMBERS FOR AGRICULTURAL PRODUCER PRICES

The index numbers for agricultural producer prices should, in principle, take into account all commodities sold by farmers. In fact, it is enough to select a limited number of commodities which account for a large part say 90 to 95 per cent of farmers' total sales in value.

- the commodities are sometimes grouped together and subindices are calculated for each group. The weighted averages of the subindices provide the general index numbers. The quotations must always relate to clearly defined specifications for the articles selected. The various quotations collected for the same article are averaged to obtain the price to be used in calculating the index.

- the formulae utilized to calculate index numbers of agricultural producer prices vary from country to country. When an aggregate formula is used the weighting must be effected by the quantities sold over a given period and the base prices must be the average prices quoted during the base period. When the formula is an average of price relatives the weighting to be applied is the amount of sales during a given period. Both methods overlap in the case of the Laspeyres formula. Weightings are determined by special surveys and are related to the base period used for prices or to any other period which may seem more appropriate. Different methods of weighting may be applied in different regions of the same country.

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Wholesale Prices and Wholesale Price Indices

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Wholesale prices and wholesale price indices

I. Introduction

1. For the development of national accounting and the diversification of economic analysis, it is becoming increasingly necessary for indices of price movements to be calculated at various stages in the marketing process on the basis of well defined groups of products. Thus, many countries construct a comprehensive index or partial indices which are intended to measure variations in the tempo of the prices of representative products at the "wholesale trade" stage of distribution.

2. Such indices are called wholesale price indices because the point of observation is wholesale trade. However, in practice, the prices used may be the prices which large manufacturers or producers ask from wholesalers, the prices which wholesalers charge retailers, the prices paid by importers to producers, etc. In other words, the prices used are those charged at some point in the circuit other than the point of retail sale. Very few countries have indices which pertain exclusively to wholesale transactions. This may be because in the case of many local products, sales are made directly by the producer to the retailer.

3. Moreover, there is a need for many more statistics pertaining to the prices charged in transactions carried out at the time products enter the economic circuit (i.e. on sales made by domestic producers and on purchases made by importers) and at the time they reach the final consumer (sales of capital goods, retail sales and exports) and for statistics pertaining to the use of intermediate goods by producers. In many countries the statistics authorities feel that with such price series it is possible to determine price movements at the various stages of wholesale and retail distribution.

4. This document pertains to the problems involved in and the methods used in collecting the data for wholesale price series. It deals primarily with the definition and description of wholesale prices, the usefulness of statistics, the selection of articles, choosing respondents, methods of data collection and wholesale price indexes.

II. Definition and description of wholesale prices

Definition

5. As we have just seen, wholesale prices are in theory prices which relate to wholesale transactions. Thus, they are the prices charged in the distribution process, i.e., they include commercial services and are thus distinguished from production costs or retail prices as defined in the documents dealing with the subjects.

6. Therefore, to define the concept of wholesale prices amounts to defining the kind of activity involved in wholesale trade. The distribution sector through which merchandise passes from the producer to the consumer is made up of two main mechanisms: wholesale trade and retail trade. Wholesale trade is that stage in the distribution process which is the closest to production. It is defined as being the re-sale (sale without transportation) of new or used goods to retailers; to industrial, commercial, institutional or professional users. The principal types of business included are merchant wholesalers, i.e., wholesalers who take title to the goods they sell, such as wholesale merchants or small wholesale traders who purchase goods from producers or import merchandise which they later sell to other merchants in large or medium consignments, jobbers, industrial distributors, exporters, importers, co-operative buying associations; sales branches and sales offices maintained by manufacturing or mining enterprises apart from their plants or mines for the purposes of marketing their products; merchandise and commodity brokers, commission merchants and agents; petroleum bulk stations and assemblers, buyers and co-operative associations engaged in the marketing of farm products.1/

B. Description

7. Thus, the term "wholesale prices" means the prices charged in large-scale wholesale transactions as defined above. In general, there are the unit prices actually charged by wholesalers. Many countries are trying to collect data on the prices at which transactions are actually made since these prices are important and useful to them.

8. Thus, wholesale prices are calculated after deducting the discounts, reductions and other mark downs on current prices unless such discounts, reductions and mark downs are allowed because of the volume of the goods purchased or for reasons relating to the time of payment However, wholesale prices include the value of goods returned and exchanged if those goods are part of the transaction.

9. Moreover, the prices must in theory include indirect contributions (sales taxes, fees, duties) levied and delivery, installation and financing charges when and charges are for services rendered by the wholesaler. However, there is considerable variation in the way in which different countries considering turnover taxes, sales taxes, indirect taxes and other taxes and subsidies related to goods in sales price series. The solution adopted seems to depend on the way in which such taxes and subsidies are treated in statistics relating to sales or production value. It would be advisable to have two price series, one relating to prices without taxes and the other to prices with all taxes included, the former being of interest mainly to producers and the second to buyers.

10. Catalogue prices are used as a last resort when, for example, the products in question have not been traded recently or when it is not yet possible to determine the price of the product sold. When prices are set by the State, these are the prices which are usually taken into consideration.

11. As pointed out in the introduction in the case of some products, prices may in practice be observed at different stages: sales price of goods produced, import price and export price. In the case of export prices, it will be preferable to deal with the prices of products which are about to cross the border.

1/ International Recommendations on Statistics of the Distributive Trades and Services.

III. Usefulness of statistic on wholesale prices

12. Wholesale price indices are one of the oldest forms of statistical information compiled. Actually, the greatest economic expectations have been based on the observation of series of wholesale price indices which are used as short-term indicators and make it possible to keep track of the pattern of economic activity. The most advanced countries attach special importance to the use of such indices for purposes of economic analysis. For one thing, some partial wholesale price indices are sensitive to fluctuations in world prices, especially where primary commodities are concerned. Moreover, it is generally easier to obtain statistics on the wholesale prices charged on markets. It should be noted that products entering wholesale markets have usually been more carefully selected and processed than goods sold by producers to the first buyer.

13. Since wholesale trade represents that stage in the distribution process which is the closest to production, wholesale price indices are also designed to reflect production costs in the various sectors of the economy.

IV. Criteria for and methods of selecting articles

14. The list of products or articles whose prices might be indexed is so long that only a small number of them can be selected for inclusion in a price survey. The following steps must be taken in selecting representative transactions:

(i) Choice of products and articles to be included in price surveys;
(ii) Choice of varieties of each product or article selected.

15. One criterion whose application to the selection of articles is not open to question is the criterion of the importance of articles as shown by their share in the wholesale trade turnover in all the countries covered by the index or their importance in terms of value of deliveries or sales made. This criterion is systematically applied in many countries because it is easier to obtain the information necessary for its application, since most of that information is derived from the same sources as the basic data used for purposes of weighting, such as, for example, data on sales, shipments or production. However, such data cannot ordinarily be obtained for varieties of articles.

16. A second criterion used in selecting transactions is the degree to which price movements relate to the price pattern of various articles within each category of transaction during a given period. The meeting of this criterion leads to efficiency in the selection process since the closer the relationship between the two factors, the fewer the transactions it will be necessary to calculate. Preference will therefore be given to products whose price pattern closely resembles the price pattern of other products in the same group.

17. In working out indices, it is essential to ensure that the prices recorded in different periods or places relate to articles of the same or equivalent quality. In this connexion, the technique recommended is to make a detailed identification of the articles to which the prices to be indexed relate, as, for example, "bananas - yellow, first quality, ripened." Specifications should include a physical and functional description of the articles in question and a statement of the conditions in which transactions involving them are made. The varieties used may be selected on the criterion of the relationship between price

movements and the pattern of prices within categories of transactions as mentioned above and on the criterion of the number of price changes within a single category during the period covered by the index. Varieties may also be selected on the basis of advice provided by professional organizations and government services.

V. Choice of respondents

18. The problem of knowing how to choose a representative sample of business establishments from which to collect data on wholesale prices is an important one.

Before the commercial establishments are selected, it is essential to draw up a list of all wholesale establishments or outlets with the establishments classified by kind of activity and location and possibly by a number of other appropriate categories such as kind of establishment. They should also be classified by size on the basis of an indicator (total sales, number of persons employed, etc.). This list of enterprises may be drawn up with the help of various kinds of administrative source material, the most important of which may be card file of enterprises, [illegible] results might also be used for this purpose. Establishments will be selected on the basis of their imports as reflected in their share in the value of deliveries made of the products selected. Preference will be given to the largest establishments with an important role in the market or with a heavy impact on prices. [illegible] speaking, such firms are able to supply the most reliable figures in the shortest time possible. If enough resources are available the list may include a certain number of smaller establishments so as to make it more representative in the long term. Finally, account should be taken of the ability of establishments to submit statements of prices and to co-operate actively with the statisticians. In selecting respondents, there is also a need to solicit information from professional organizations of wholesalers and retailers. If possible, at least three enterprises should be selected as respondents for each product and administrative unit, and more than three if a large number of important varieties of the product exists. However, the choice is sometimes limited in that frequently a given article is produced or supplied by one firm only. It should be borne in mind that information can be obtained from commodity exchanges, professional organizations, reliable specialized publications and government offices.

VI. Methods of collecting data

20. Two basic methods may be employed:

(i) A mail inquiry with or without the obligation to reply. This method consists in mailing questionnaires to the respondents who fill them in themselves and mail them back. This is a simple, lowcost method which is preferred by the economically developed countries.

(ii) A survey carried out by conducting interviews or personal visits. This method of inquiring directly of sellers or buyers would be the most appropriate one in Africa. To ensure that the findings are statistically valid, however, there must be no doubt that the majority of the respondents will co-operate. The frequency with which data on prices are collected affects their representative value and depends

on the relative magnitude of the transactions reflected in the various price series and on the amount of change in these prices in time. If the prices fluctuate a great deal, enough data must be collected for a monthly or quarterly index to make it possible to assess the price charges throughout the entire month or quarter. In deciding on the frequency with which price series should be compiled account should also be taken of the cost and difficulty of the operation. In practice, most countries collect data on a monthly or quarterly basis, and a survey is carried out on the transactions made on a given day (the fifteenth of the month or a day in the middle of the quarter).

VII. Wholesale price indices

A. General information

21. Wholesale price indices are intended to measure the changes in wholesale practices which occur over a given period of time. However, in practice, the stage at which prices are observed varies by country and by product. The observation may be made from any point in the distribution process other than the point of retail sale. Thus, the official designation usually assigned to such indices is either "wholesale price index" or "index of production costs". Sometimes prices are referred to as "wholesale prices" because they apply to bulk sales and not because they refer to the prices charged by wholesalers.

B. Coverage of index

22. In theory, only commodities sold wholesale are covered. Wholesale statistics therefore do not cover retail transactions, transactions involving goods such as heavy equipment, vessels and other complex goods. However, in practice, the coverage of indices varies greatly from country to country. In some countries price data for a large number of products are collected, whereas in other countries the indices compiled pertain to only a limited number of products.

23. In Africa, nine countries compile comprehensive wholesale price indices while in three countries (Senegal, the Ivory Coast and Zambia), the only index prepared is one on building materials. Finally, wholesale price indices are usually national in their coverage.

C. Classifications used in indexing

24. The usual method is to work out a number of partial indices based on wholesale prices relating to categories of goods classified according to recommended standard classifications. Thus, goods traded are classified according to the International Standard Classification of all Goods and Services (ICGS) and branches of commercial activity are classified according to the International Standard Industrial Classification of all Economic Activity (ISIC). Other systems of classification, such as national systems, may also be used; however, for a number of years an attempt has been made to compile indices which will make it possible to measure movements in the price of goods in terms of the flow of goods among different sectors of the economy (sectoral approach). In this approach, classification is by kind of industrial activity, economic origin (domestic production, importation) and destination of the goods (intermediate consumption, final consumption, gross fixed capital formation, exports).

D. Method used in calculating indices

25. In most countries, indices are calculated with the help of the Laspeyre formula, i.e., on the basis of weighted arithmetic averages.

26. In the traditional approach, the weighted elements represent the purchase or sales value of the leading products under the system of classification of products adopted. In the sectoral approach, the weighted elements represent the purchase or sales value of the leading products in each economic sector considered.

27. However, in some countries the weighted elements are derived from the value of products consumed on the domestic market. Thus, the sources used in weighting indices are in principle wholesale trade surveys.

28. The frequency with which indices are compiled depends on the rate of flow of goods and on price fluctuations. Thus, indices may be calculated on a monthly, quarterly or yearly basis. As a general rule, the unweighted average of the prices reported by the various firms is used; however, those prices are weighted if they vary significantly because of differences in the conditions of sale or peculiarities in the articles sold.